



849 NW STATE ROAD 45
NEWBERRY, FL 32669 USA
PH: 888.472.2424 OR 352.472.5500
FAX: 352.472.2030
EMAIL: TEI@TIMCOENGR.COM
[HTTP://WWW.TIMCOENGR.COM](http://WWW.TIMCOENGR.COM)

FCC PART 15.245
FIELD DISTURBANCE SENSOR
TEST REPORT

APPLICANT	MS SEDCO, INC.
ADDRESS	8701 CASTLE PARK DRIVE INDIANAPOLIS, IN 46256 USA
FCC ID	OHRMICRO
MODEL NUMBER	MICRO
PRODUCT DESCRIPTION	MOTION SENSOR
DATE SAMPLE RECEIVED	September 21, 2006
DATE TESTED	September 22, 2006
TESTED BY	Joe Scoglio
APPROVED BY	Mario de Aranzeta C.E.T.
TIMCO REPORT NO.	2646AUT6TestReport
TEST RESULTS	☒ PASS ☐ FAIL

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT
THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**



Certificate # 0955-01

TABLE OF CONTENTS

STATEMENT OF COMPLIANCE.....	3
REPORT SUMMARY.....	4
TEST ENVIRONMENT.....	4
TEST SYSTEM.....	4
EQUIPMENT UNDER TEST.....	5
TEST EQUIPMENT LIST.....	6
TEST PROCEDURE	7
POWER LINE CONDUCTED INTERFERENCE.....	8
OCCUPIED BANDWIDTH.....	10
FIELD STRENGTH OF SPURIOUS EMISSIONS.....	11

STATEMENT OF COMPLIANCE



Certificate 0955-01

This equipment has been tested in accordance with the standards identified in the referenced test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report and demonstrate that the equipment complies with the appropriate standards.

I attest that the necessary measurements were made by me or under my supervision, at Timco Engineering, Inc. located at 849 N.W. State Road 45, Newberry, Florida 32669 USA.

Authorized by: Mario de Aranzeta



Signature:

Function: Engineer

Date: October 9, 2006

Tested by: Joe Scoglio

Signature: on file

Date: September 26, 2006

REPORT SUMMARY

Purpose of Report: The tests were performed on a sample of the equipment to demonstrate the compliance with FCC Part 15 Subpart C.

Applicable Standard(s): FCC Part 15.245, ANSI C63.4: 2003

Test Result: The test results relate only to the items tested.

Related Report(s): Digital Interface Portion verified – 2646CUT6TestReport – Pt 15.109

TEST ENVIRONMENT

Test Facilities: All measurements were made at one or more of the test sites of TIMCO ENGINEERING INC. located at 849 N.W. State Road 45, Newberry, FL 32669.
The test site information is on file with FCC.

Test Conditions: Temperature - 78°F, Relative humidity -55%

Deviation to the procedures: No deviation

TEST SYSTEM

Description of certified system: Stand alone field sensor

Support Equipment: Description: N/A
Manufacturer: N/A
FCC ID or M/N: N/A

Test Exercise: The EUT was set in continuous transmit mode of operation.

Modification: No modification was made to show the equipment in compliance with applicable requirements.

EQUIPMENT UNDER TEST

Manufacturer: MS SEDCO, INC.
FCC ID: OHRMICRO
Model Number: MICRO
Serial Number: N/A
Product Description: Field Disturbance Sensor
Operating Frequency: 24 GHz
Max. Output power: None
Type of Modulation: None
Emission Designator(s): None
Power Supply: DC power supply
Test Item: Pre-Production
Type of Equipment: fixed
Antenna Spec: Integrated
Antenna Connector: none

TEST EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/27/04	3/26/07
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09
Biconnical Antenna	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Biconnical Antenna	Electro-Metrics	BIA-25	1171	CAL 4/29/05	4/29/07
Analyzer Tan Tower Preamplifier	HP	8449B-H02	3008A00372	CAL 12/8/05	12/8/07
Analyzer Tan Tower Quasi-Peak Adapter	HP	85650A	3303A01690	CAL 12/8/05	12/8/07
Analyzer Tan Tower RF Preselector	HP	85685A	3221A01400	CAL 12/7/05	12/7/07
Analyzer Tan Tower Spectrum Analyzer	HP	8566B Opt 462	3138A07786 3144A20661	CAL 12/7/05	12/7/07
LISN	Electro-Metrics	EM-7820	2682	CAL 4/28/05	4/28/07
Log-Periodic Antenna	Eaton	96005	1243	CAL 12/14/05	12/14/07
Antenna: Double-Ridged Horn/ETS Horn 2	ETS-Lindgren	3117	00041534	CAL 11/17/04	11/17/06

TEST PROCEDURE

Power Line Conducted Interference: The procedure used was ANSI STANDARD C63.4-2003 using a 50uH LISN. The spectrum was scanned from .15 to 30 MHz. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

Radiation Interference: The test procedure used was ANSI STANDARD C63.4-2003 using an Agilent spectrum receiver with pre-selector. The bandwidth (RBW) of the spectrum receiver was 100 kHz up to 1 GHz and 1 MHz above 1 GHz with an appropriate sweep speed. The VBW was always greater than or equal to the RBW. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

POWER LINE CONDUCTED INTERFERENCE

Rules Part No.: 15.207(a)

Requirements:

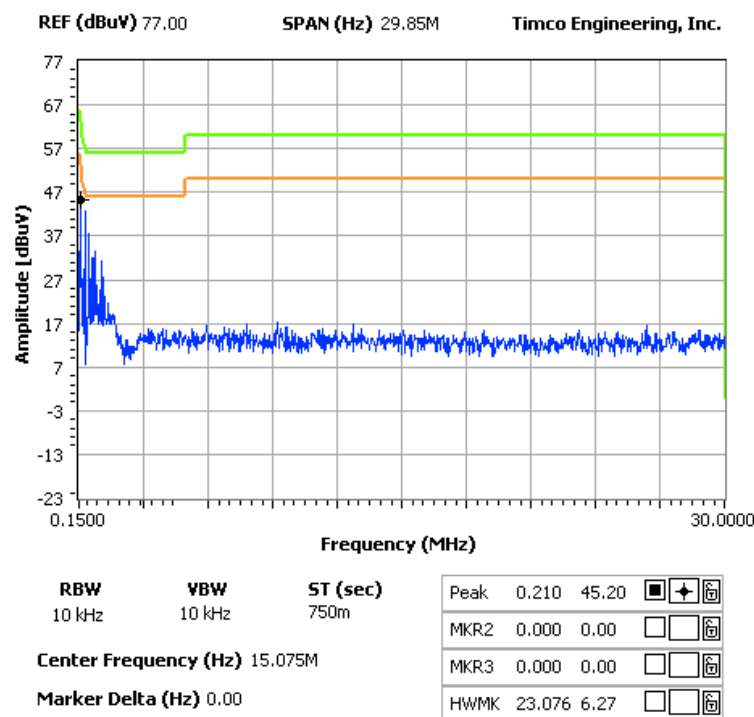
Frequency MHz	Quasi-peak (QP) dBmV	Average (AV) dBmV
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 – 30	60	50
* Decreases with the logarithm of the frequency.		

Test Data:

NOTES:

2646aut6 ac line conducted line 1

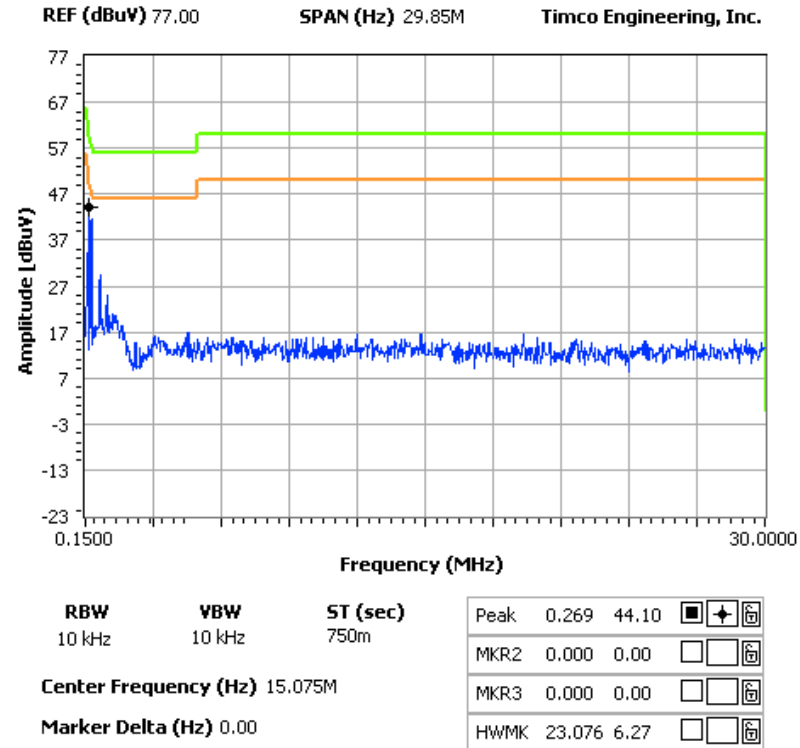
FCC 15.107 Mask Class B



NOTES:

2646aut6 ac line conducted line 2

FCC 15.107 Mask Class B

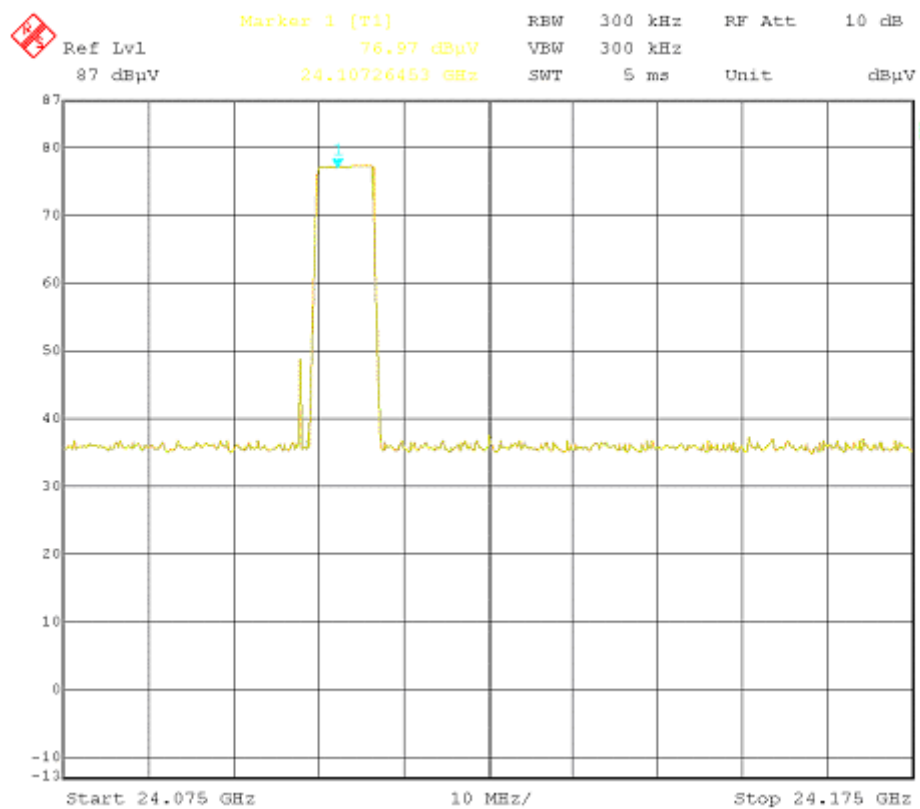


OCCUPIED BANDWIDTH

Rules Part No.: 15.245

Requirements: The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.209.

Test Data: The carrier frequency was measured over a several minute period.
The carrier stayed in the band.



FIELD STRENGTH OF SPURIOUS EMISSIONS

Rules Part No.: 15.245(b)

Requirements:

Frequency MHz	Fundamental Limits Millivolts/meter @ 3m	Harmonic Limits Millivolts/meter @ 3m
902 ~ 928	500	1.6
2435 ~ 2465	500	1.6
5785 ~ 5815	500	1.6
10500 ~ 10550	2500	25.0
24075 ~ 24175	2500	25.0

Emissions that fall in the restricted bands (15.205) must be less than or equal to 500 uV/m (54 dBuV/m). Spurious not in a restricted band must be 20 dBc. Harmonics were checked through the 10th harmonic.

Test Data: Please refer to the following data. Two samples were measured designated below by different carrier frequencies. The measurements were made at 1-meter distance and corrected to 3 m.

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity V/H	3 m CF dB	Correction Factor dB/m	Field Strength dBuV/m	Margin dB
24,100	24,100.	62.6	V	9.5	38.3	91.4	36.6
24,100	24,100.	64.6	H	9.5	38.3	93.4	34.6
24,100	48,200.	40.2	V	9.5	40.3	71.0	17.0
24,100	48,200.	38.9	H	9.5	40.3	69.7	18.3
24,130	24,130.	59.6	V	9.5	38.3	88.4	39.6
24,130	24,130.	65.8	H	9.5	38.3	94.6	33.4
24,130	48,260.	37.3	V	9.5	40.3	68.1	19.9
24,130	48,260.	37.2	H	9.5	40.3	68.0	20.0

R – Restricted

Note: No emissions noted above 50 GHz